

What is claimed is:

1. A terminal device for control of data between communicating entities over a network via a wireless link,  
5 comprising:

an interface section for performing sending and receiving of packets with a remote communicating entity;

a link setting section for setting a link for control and for data transfer with the remote communicating entity;

10 a wireless link information acquisition section for acquiring wireless link information indicating the condition of a wireless link between said terminal device and a remote communicating entity in the network at the time of setting the link, and for updating the wireless link information  
15 acquired at the time of setting the link by the current dynamically acquired wireless link information;

a wireless link information storage section for storing the acquired or updated wireless link information; and

20 an application section for, based on the wireless link information stored in the wireless link information storage section, determining whether or not data can be transferred and, if data transfer is possible, optimizing a transfer parameter for transfer of data with the remote communicating entity, in accordance with the wireless link information, this  
25 transfer parameter being used to receive data from or send data to the remote communicating entity, via the interface section.

2. The terminal device according to claim 1, wherein the  
30 wireless link information stored in the wireless link information storage section includes wireless link information with regard to said terminal device and wireless link information with regard to a remote communicating entity.

35 3. The terminal device according to claim 2, wherein the wireless link information acquisition section includes:

008260" 21072960

a remote wireless link information requesting section for requesting notification of wireless link information with regard to the remote communicating entity that the remote communicating entity has, at the time of startup by the application section; and

a remote wireless link information receiving section for receiving wireless link information of the remote communication entity, notification of which is made from the remote communication entity.

10

4. The terminal device according to claim 1, further comprising:

a wireless link information updating section for changing wireless link information stored in the wireless link information storage section to a format interpretable by the application section and for passing the wireless link information to the application section.

15

5. The terminal device according to claim 1, wherein the wireless link information storage section stores wireless link information as information related to a constituent element of said terminal device.

20

6. The terminal device according to claim 5, wherein a SubUnit defined in the AV/C Protocol is used as the constituent element.

25

7. The terminal device according to claim 1, further comprising:

a wireless link monitoring section for monitoring the condition of a wireless link in the network, for outputting wireless link information acquired by the monitoring to the wireless link information acquisition section.

30

8. The terminal device according to claim 1, further comprising:

35

a local wireless link information sending section for sending wireless link information of said terminal device to the remote communicating entity, in response to a request from the remote communicating entity.

5

9. The terminal device according to claim 1, further comprising:

a user interface section for, based on wireless link information stored in the wireless link information storage section, providing to a user a list of data candidates for transfer, and waiting for input from the user of data selected from the list.

10. The terminal device according to claim 1, wherein the wireless link information includes at least one of a packet discard rate, a usable bandwidth, a number of usable channels, a usable transfer rate, or observable information on which these are based.

11. The terminal device according to claim 1, wherein the transfer parameter is at least one of an AV/C command or content data to be transferred.

12. A terminal device for transfer of data between communicating entities over a network via a wireless link, comprising:

an interface section for performing sending and receiving of packets with a remote communicating entity;

a link setting section for setting a link for control and for data transfer with a remote communicating entity;

a wireless link information acquisition section for acquiring wireless link information indicating a condition of a wireless link between said terminal device and a remote communicating entity in the network at the time of setting the link, and for updating the wireless link information acquired at the time of setting the link by the current

dynamically acquired wireless link information;

a wireless link information storage section for storing the acquired or updated wireless link information; and

5 a local wireless link information notification section for receiving from the remote communicating entity a request for local wireless link information of said terminal device and for sending the local wireless link information to the remote communicating entity.

10 13. A gateway device for controlling transfer of data between a first terminal device on a wired network and a second terminal device on a wireless network, the gate device comprising:

a first interface section for sending and receiving packets via the wireless network;

15 a second interface section for sending and receiving packets via the wired network;

a first link setting section for setting a link for control and for data transfer with the second terminal device;

20 a second link setting section for setting a link with the first terminal device;

25 a wireless link information acquisition section for acquiring wireless link information indicating a condition of a wireless link between said terminal device and the second terminal device on the wireless network at the time of setting the link, and for updating the wireless link information acquired at the time of setting the link by the current dynamically acquired wireless link information;

a wireless link information storage section for storing the acquired or updated wireless link information; and

30 a network connection processor for, based on wireless link information stored in the wireless link information storage section, performing receiving or sending of data between the first terminal device and the second terminal device via the first interface section and second interface section.

35

09671012 092800

14. The gateway device according to claim 13, further comprising:

5 a local terminal wireless link information sending section for, in response to a request from the first terminal device on the wired network or from the second terminal device on the wireless network, for sending local wireless link information to the first terminal device or the second terminal device, respectively.

10 15. The gateway device according to claim 13, wherein the wireless link information acquisition section includes:

15 a remote link information requesting section for requesting notification of remote link information of the first terminal device to the first terminal device on the wired network; and

a remote link information receiving section for receiving remote link information, notification of which is made by the first terminal device.

20 16. A method of controlling transfer of data via a wireless link with a remote communicating entity over a network, comprising:

a step of setting a link for control with a remote communicating entity;

25 a step of acquiring wireless link information indicating a condition of a wireless link between said terminal device and a remote communicating entity on the network at the time of setting the link;

30 a step of setting a link for data transfer with the remote communicating entity;

a step of updating wireless link information acquired at the time of setting of the link with current dynamically acquired wireless link information acquired after the setting of the link for data transfer;

35 a step of determining whether or not transfer of data is possible, based on the updated wireless link information;

and

a step of optimizing a parameter for transfer of data with the remote communicating entity, in accordance with wireless link information in the case in which data transfer is possible, and performing receiving or sending of data with the remote communicating entity, using the optimized parameter for transfer.

17. The method according to claim 16, wherein

the wireless link information includes wireless link information with regard to said terminal device and information with regard the remote communicating entity.

18. The method according to claim 17, wherein the wireless link information updating step includes:

a step of requesting notification of remote wireless link information of the remote communicating entity to the remote communicating entity at the time of the startup by an application; and

a step of receiving wireless link information of the remote communicating entity, notification of which is made by the remote communicating entity.

19. A method of transfer of data via a wireless link with a remote communicating entity on a network, comprising:

a step of setting a link for control with the remote communicating entity;

a step of acquiring wireless link information indicating a condition of a wireless link between said terminal device and the remote communicating entity on the network at the time of setting the link;

a step of setting a link for data transfer with the remote communicating entity;

a step of updating the wireless link information acquired at the time of setting of the link with current dynamically acquired wireless link information acquired after the setting

of the link; and

5 a step of receiving a notification request sent from the remote communicating entity for the local wireless link information of said terminal device, and sending local wireless link information of said terminal device to the remote communicating entity in response to the request.

10 20. A method of controlling of data between a first terminal device on a wired network and a second terminal device on a wireless network, this method comprising:

a step of setting a link for control with the second terminal device;

15 a step of acquiring, at the time of setting of the link, wireless link information indicating a condition of a wireless link between said terminal device and the second terminal device on the wireless network;

a step of setting a link for data transfer with the second terminal device;

20 a step of updating the wireless link information acquired at the time of setting the link with current dynamically acquired wireless link information acquired after the setting of the link for data transfer;

a step of setting a link with the first terminal device; and

25 a step of performing receiving or sending of data between the first terminal device and the second terminal device, based on the wireless link information.